## ABSTRACT OF THE DISCLOSURE

A mixture of organoalkoxysiloxanes of formula I:

$$R'O \longrightarrow \begin{bmatrix} Si - O - \end{bmatrix}_m \longrightarrow \begin{bmatrix} Si - O - \end{bmatrix}_n R'$$

$$OR' \qquad OR'$$
(I),

wherein R and R" are identical or different and are methyl, ethyl, vinyl, n-propyl, i-propyl,  $\gamma$ -chloropropyl, n-butyl, i-butyl, n-pentyl, i-pentyl, n-hexyl, i-hexyl, n-heptyl, i-heptyl, n-octyl, i-octyl, hexadecyl, octadecyl or alkoxy, R' represents methyl or ethyl, n and m are identical or different and each is 0 or an integer ranging from 1 to 20, on the condition that  $(n+m) \ge 2$ , is prepared by:

reacting in a first stage the constituents of (i) an organotrichlorosilane or a mixture of organotrichlorosilanes or a mixture of at least one organotrichlorosilane and tetrachlorosilane, (ii) water and (iii) alcohol, combined in a molar ratio (i): (iii): (iii) of 1: (0.59 to 0.95): (0.5 to 100), at a temperature of 0 to 150°C, which produces hydrogen chloride as a product which is removed from the system and the crude organoalkoxysiloxane product is transferred proportionately to the reaction distillation column of a subsequent second stage after an average dwell time of 0.5 to 180 minutes; and

conducting reaction and distillation in the reaction distillation column in a second stage in which volatile constituents are withdrawn from the top of the column and the organoalkoxysiloxane product is withdrawn as a bottom product, wherein the reaction-distillation column is operated at a bottom temperature of 50 to 200°C.